REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

By way of this Amendment, Claims 1 and 2 have been canceled, and new Claims 27 and 28 have been added. Also, the dependency of Claims 3, 4, 6-8, 11 and 13 has been changed so that such claims depend from new independent Claim 27. Thus, the claims currently pending in this application are Claims 3-28, with Claims 14, 27 and 28 being the only independent claims.

The Official Action sets forth a rejection of original independent Claims 1 and 14, and various dependent claims, on the basis of the disclosure contained in U.S. Patent No. 5,800,721 to *McBride*. That rejection is respectfully traversed for at least the following reasons.

The claims at issue in this application are directed to a blood reservoir. As discussed in the background portion of the present application, known extracorporeal blood circulation systems include a main circuit having a blood return line from large veins and a blood return line to the arterial system, a suction circuit for suctioning blood accumulated in the surgical field, and a vent circuit for suctioning blood accumulated in the heart. In the suction and vent circuits, blood that is suctioned from the surgical field outside the heart and vented blood suctioned from the interior of the heart are introduced into a blood reservoir (i.e., a cardiotomy reservoir) for temporarily storing such blood. The blood that is suctioned from outside of the heart can contain relatively large amounts of foreign substances while the blood that is vented from the interior of the heart typically has a relatively small amount of such foreign substances.

As further discussed in the background portion of this application, known blood reservoirs or cardiotomy reservoirs used in extracorporeal blood circulation systems are constructed so that the blood suctioned from outside heart and the blood vented from the heart interior are filtered in such a way that during filtering of the blood that is vented from the interior of the heart, the vented blood can contact foreign substances filtered off from the suctioned blood that is suctioned from outside the heart. Thus, the vented blood is needlessly subjected to the potential of contacting foreign substances filtered off from the suctioned blood.

The blood reservoir at issue here comprises a housing having a vented blood inlet though which flows blood vented from the interior of the heart, a suctioned blood inlet through which flows blood suctioned from the outside of the heart, and a blood outlet. A filtering unit is provided in the housing and comprises a filtering member for filtering blood flowing into the housing.

New independent Claim 27 recites the combination of features previously set forth in original Claims 1 and 2 for purposes of better defining one of the ways in which the reservoir of the present invention distinguishes over the reservoir described in *McBride*. Claim 27 recites that the reservoir also comprises a vented blood filtering chamber that communicates with the vented blood inlet and is formed at least partially by the filtering member for forming a vented blood filtering member. In addition, a suctioned blood filtering chamber communicates with the suctioned blood inlet and is formed at least partially by the filtering member forming a suctioned blood filtering member. The vented blood that flows into the housing is adapted to pass through the filtering member without contacting foreign substances filtered off from the suctioned blood. Thus, the vented blood from the interior of the heart and

the suctioned blood from the outside of the heart are introduced into respective filtering chambers through respective inlets. This claimed blood reservoir is quite different from that disclosed in *McBride*.

McBride discloses a combined cardiotomy and venous blood reservoir that is adapted to both recover blood and other body fluid from a surgical site (i.e., cardiotomy fluid and blood from the circulatory system of the patient (i.e., venous blood). The reservoir includes a cardiotomy fluid inlet 32 through which cardiotomy fluid flows into the housing 12 and a venous blood inlet 34 through which venous blood flows into the housing 12. Thus, the cardiotomy fluid consisting of blood and body fluid collected from a patient is introduced into the cardiotomy inlet 32 while venous blood is introduced by way of the venous blood inlet 34.

The discussions in *McBride* regarding the cardiotomy fluid that is introduced through the cardiotomy inlet 32 (see, for example, the discussions at column 1, lines 6-9 and column 6, lines 12-19) make clear that the cardiotomy fluid includes vented blood from the interior of the heart and suctioned blood from the outside of the heart. Thus, *McBride* describes introducing the vented blood and the suctioned blood through the same cardiotomy inlet and into the same filter chamber. *McBride* does not disclose providing a vented blood inlet through which flows blood vented from the interior of the heart and a separate suctioned blood inlet through which flows blood from outside the heart. Nor does *McBride* describe a vented blood filtering chamber communicating with a vented blood inlet to receive the vented blood and a suctioned blood filtering chamber communicating with a suctioned blood inlet to receive the suctioned blood. Rather, as noted above, *McBride* simply discloses a cardiotomy inlet 32 that receives both the vented blood and the suctioned blood, and a filter

chamber that communicates with the cardiotomy inlet to receive both the vented blood and the suctioned blood. Thus, the reservoir disclosed in *McBride* is much the same as that discussed in the background portion of the present application and is susceptible to disadvantages and drawbacks such as discussed in the present application.

For at least the reasons discussed above, it is respectfully submitted that the claimed blood reservoir recited in independent Claim 27 differs from and is patentable distinguishable over the disclosure contained in *McBride*.

Original independent Claim 14 defines that the blood reservoir comprises a housing having a vented blood inlet through which flows blood vented from the interior of the heart, a suctioned blood inlet through which flows blood suctioned from the outside of the heart, a vented blood filtering unit, and a suctioned blood filtering unit. The vented blood filtering unit comprises a vented blood filtering member adapted to filter the vented blood flowing through the vented blood inlet, while the suctioned blood filtering unit comprises a suctioned blood filtering member adapted to filter the suctioned blood flowing through the suctioned blood inlet. Also, an antifoaming agent is placed in the suctioned blood filtering unit at a position adapted to be contacted by the suctioned blood flowing through the suctioned blood inlet The vented blood flowing in through the vented blood inlet is able to pass through the vented blood filtering member without contacting the antifoaming agent and foreign substance filtered off from the suctioned blood.

For reasons similar to those discussed above, *McBride* does not disclose the combination of a vented blood inlet through which flows blood vented from the

interior of the heart, a suctioned blood inlet through which flows blood suctioned from out side of the heart, a vented blood filtering chamber communicating with the vented blood inlet to receive the vented blood, and a suctioned blood filtering chamber communicating with the suctioned blood inlet to receive the suctioned blood. Rather, as explained above, *McBride* specifically discloses a reservoir provided with a cardiotomy inlet which receives both vented blood and suctioned blood (I.e., cardiotomy fluid as described by *McBride*), and a filter chamber that receives both the vented blood and the suctioned blood.

In addition, it appears from the Official Action that the filter/de-foamer element 152 disclosed in *McBride* is interpreted as corresponding to the claimed antifoaming agent recited in independent Claim 14. However, *McBride* specifically describes in lines 36 and 37 of column 11 that the cardiotomy fluid is defoamed and filtered by the filter/de-foamer element 152. Since the cardiotomy fluid disclosed in *McBride* includes both vented blood and suctioned blood, it necessarily follows that the vented blood contacts the filter/de-foamer element 152. This is in direct contrast to the claimed blood reservoir recited in Claim 14 in which the vented blood passes through the vented blood filter member without contacting the antifoaming agent.

It is thus respectfully submitted that the blood reservoir recited in independent Claim 14 is also patentably distinguishable over the disclosures contained in the applied documents.

The dependent claims are allowable at least by virtue of their dependence from allowable independent claims. Those dependent claims also define further distinguishing characteristics associated with the claimed blood reservoir. For

example, Claim 3 recites that the vented blood filtering chamber and the suctioned blood filtering chamber are formed by a partition separating a space encircled by the same filtering member, while Claim 4 recites that the two filtering chambers are formed by separate filtering members. Quite clearly, this is not the case with the reservoir disclosed in *McBride* since the suctioned blood and the vented blood are both introduced into the same filter chamber.

Dependent Claims 5 and 15 recite that at least one condition set in a vented blood filtering member provided as the filtering member forming the vented blood filtering chamber and at least one condition set in a suctioned blood filtering member provided as the filtering member forming the suctioned blood filtering chamber are different from each other. As discussed in the present application, for example in the discussion beginning in the middle of page 31, it is possible to select different conditions for the filtering member used for the vented blood and the filtering member used for the suctioned blood to take into account differences associated with the vented blood and the suctioned blood (e.g., the rate of inflow, the amount of foreign substances, etc.). Dependent Claims 7 and 19 defines one example of the different conditions by defining that the effective area of the vented blood filtering member differs from the effective are of the suctioned blood filtering member. *McBride* does not disclose the features set forth in Claims 5, 7, 15 and 19 because the filtering member for the vented blood and the suctioned blood is the same filtering member.

Dependent Claims 13, and 25 recite that the housing also has a venous blood inlet through which flows blood from a large vein, and a venous blood filtering unit

having a venous blood filtering member for filtering blood flowing through the venous inlet. *McBride* does not disclose a venous blood inlet together with the claimed vented blood inlet and suctioned blood inlet. Further, *McBride* does not disclose a venous blood filtering unit on the side of the housing that receives venous blood by way of the venous blood inlet 34.

Finally, new Claim 28 has been added and defines an aspect of the invention in terms different from that recited in the other independent claims.

Early and favorable action with respect to his application is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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